

CRM

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The New CRM (Bulletin)

We begin a new year of publication with a new look for CRM (the bulletin). We have changed the layout and created new departments to make the publication easier to use—and we dropped the word "bulletin" from the title. Most importantly, we have established a committee of editorial advisors representing cultural resources management programs at the Federal, state and local levels. The primary function of the advisors is to ensure that CRM contains high quality material that reflects the interdisciplinary nature of our programs. At their initial meeting in August, the advisors suggested a number of topics to be included in future issues of CRM. A partial list of these topics—which we anticipate including in the bulletin during the next year—is printed below. If any CRM reader is interested in submitting an article, news item, or announcement related to one of these topics, please contact the editor. Additional topics will be announced in the next CRM.

Organization of Articles

The new CRM is organized into two sections—Features and Departments. The Features section will include essays and "how to" articles related to program activities: planning, survey and evaluation (including documentation); management and protection (including curation and interpretation); and preservation treatments. The Departments, not necessarily appearing in each issue, are: Washington Report, including Bruce Craig's "Capitol Contact," reports from Washington on the status of regulations, policy changes and the like; Information Management, including Betsy Chittenden's "Computer News," computer applications, and other information management topics; Bulletin Board for training and meeting notices; Viewpoint for letters to the editor, personal perspectives, opinions, commentaries; and Preservation Resources, which will include notices of new publications, book reviews, information about preservation organizations and more. We hope to add a department for news from the states; and other departments will be added as appropriate. Readers of CRM are encouraged to submit material for any portion of the bulletin. Deadline is eight weeks prior to the month of publication (we publish every two months, beginning in February). Submit suggestions for articles or new departments to the Editor.

Topics

- Cultural landscapes
- World War 11 50th anniversary
- Vandalism and looting
- Heritage education
- Native Americans
- Disaster preparedness
- National Historic Preservation Act 25th anniversary
- Historic park housing
- Rock art
- Programmatic agreements
- Industrial heritage archeology
- Archeological site stabilization and post-stabilization programs

Historic Bridges: Preservation Challenges

Eric Delony

Michael J. Auer

In 1975 the Historic American Engineering Record began a program to document the most historic bridges in the United States. Since then, over 100,000 bridges of all types and ages have been scheduled for replacement. Historic bridges are especially threatened. Historic wood, stone, and concrete spans are disappearing throughout the country. But metal truss bridges face the greatest peril. Without a concerted effort, the Nation will lose, in a single generation, the physical evidence of America's greatest engineering and manufacturing achievement: the prefabricated metal truss bridge. Yet the preservation community as a whole is not generally aware of the threats to these important cultural resources. This article has been prepared in an attempt to bring the problem to the attention of a wide audience. It is meant to serve as a general introduction only.

Bridges readily call forth tributes—and not just from engineers. The appeal of bridges is universal. The Brooklyn Bridge instantly became a symbol of American know-how and the 19th century dream of progress. It remains one of the best-known structures in the world. The Golden Gate Bridge defines a city. Less monumental bridges also have a place in popular affection. Covered bridges, like log cabins, hold a special place in the American imagination. Modest bridges of wood, stone, iron, steel or concrete can inspire affection and wonder. Bridges are easy to love. It's a good thing: there are a lot of them to love. Exactly how many is hard to say. The 1989 report by the Secretary of Transportation to Congress cites a total of more than 575,000.² A large number of these are presumably old and historic—as many as 50,000 according to a 1983 report by the Transportation Research Board.³ Presently, 1520 bridges are listed in the National Register of Historic Places. Another 917 have been determined eligible for listing.

Bridges are symbols of progress at many levels: Crossing one is always a small ceremony, ending in arrival at some place separated from where we were except by this slender link.

Bridges are eminently practical and often beautiful. But apart from all that they are a potent symbol. They denote the universal concept of making connections. We speak of "building bridges" between diverse attitudes, between people, between nations.... Building bridges is a process of integration—it works towards making things whole. But the matter goes further than that. It is not only a question of making connections and overcoming obstacles, but of doing so in the most dramatic manner possible. Getting there via a bridge is analogous to making an inspired breakthrough. Or, to put it another way, moving from one side to the other without the laborious business of following the contours is like solving a difficult problem by intuition rather than plodding deduction. This joyful ease is a special quality of bridges. '

* * *

Federal Bridge Program

Bridges delight, but more and more they alarm as well. Concern for the Nation's aging infrastructure—the system of highways, bridges, dams, sewers, power plants and other structures on which our society depends—has raised questions about the safety of bridges. The Department of Transportation report cited earlier estimates that about 238,000, or

approximately 40%, are estimated to be "structurally deficient" or "functionally obsolete." Understandably, the need to address bridge safety has gathered widespread attention.

The current Federal bridge program has its origins in the worst bridge collapse of the 20th century. In 1967 the collapse of the Point Pleasant Bridge over the Ohio River stunned the Nation. Following the work of a Presidential Task Force, Congress passed legislation designed to enhance bridge safety. The laws established bridge inspection and replacement programs. Landmark laws in this program are: Federal Aid Highway Act of 1968. Established the National Bridge Inspection Program, which set bridge inspection standards; also required states to inventory and periodically inspect Federal-aid bridges.

Federal-Aid Highway Act of 1970. Authorized funds for bridge replacement.

Surface Transportation Assistance Act of 1978. Expanded the inventory requirements of the National Bridge Inspection Program to "off-system" bridges (i.e., bridges not on the Federal Aid Highway system). The law also established the Highway Bridge Replacement and Rehabilitation Program (HBRRP). Under this program, for the first time, highway funds could assist the rehabilitation of existing bridges rather than their replacement only. Rehabilitation funds could go to bridges off the Federal-aid system and to railroad bridges and bridges over highways. (In FY 1991, over \$1.5 billion was authorized.)

Surface Transportation and Uniform Relocation Assistance Act of 1987. Extended funding for the Highway Bridge Replacement and Rehabilitation Program, and required states to inventory historic bridges. The law also permitted use of funds for rehabilitation of historic bridges for such non-vehicular uses as pedestrian walkways and bicycle routes. The act also declared it "to be in the public interest to encourage the rehabilitation, reuse and preservation of bridges significant in American history, architecture and culture." This was the first congressional statement of a public interest in preserving historic bridges.

It would seem, then, that the preservation of historic bridges was assured. Unfortunately, this is not the case. Inventories of historic bridges have been completed in 33 states. But relatively few historic bridges have been rehabilitated, relocated or adaptively reused since the Federal bridge rehabilitation program began. Several reasons account for the widespread replacement of historic bridges. The reasons relate both to technical aspects of such structures—to why old bridges need "rehabilitation" in the first place—and to the processes of the programs involved. These two aspects meet in the system for rating the condition of historic bridges.

All bridges inspected are assigned a rating assessing their overall condition. (Such a rating is necessary in order to rank bridges for HBRRP rehabilitation funds.) Points are given for the following factors:

- Structural adequacy. This rating factor assesses the structural capacity of a bridge.
- Serviceability and functional obsolescence. This factor assesses the geometric and traffic capacity features of a bridge (e.g., such features as whether it is aligned with approach roads properly, whether it offers sufficient clearance for trucks, and whether its decks are wide enough to carry contemporary automobile traffic).
- Essentiality for public use. This factor assesses the frequency of use, and the importance of the bridge as part of the defense highway system. Bridges with unsatisfactory ratings are eligible for funds from the Highway Bridge Replacement and Rehabilitation Program. Many historic bridges fall into this category. Such structures were usually built for less traffic at lighter loads than is generally found today. Furthermore, many older bridges have been damaged by automobiles and snowplows, and have suffered from deicing chemicals; many have received little maintenance. All of these factors affect the structural adequacy of bridges.

Even when they are not structurally deficient, many older bridges receive low marks for "serviceability." They thus rate as "functionally obsolescent." Older bridges are often capable of carrying modern traffic, but may have poorly aligned approaches by today's

standards. They may have been built to carry only one lane of traffic. In other cases, overhead structural ties offer insufficient clearance for trucks and farm equipment.

For a number of reasons, then, historic bridges are rated low. They should, therefore, be eligible for rehabilitation funds. With such funds, they could be repaired or rehabilitated to meet modern needs while maintaining their historic character. However, this is often not the case.

Nearly all bridge projects using HBRRP funds require that assisted bridges meet the standards of the American Association of State Highway Transportation Officials (AASHTO). There are procedures for exempting historic bridges from these standards, but relatively few have received such exemptions, especially compared with the number of bridges needing repair or rehabilitation. Many state highway officials have been reluctant to apply for such exemptions. Furthermore, engineers, facing liability concerns, are often unwilling to rehabilitate an older bridge that cannot meet AASHTO standards, and recommend new construction instead.

Bridge Preservation

Despite difficulties, historic bridges can be preserved for continued use—without endangering the public. Not meeting AASHTO standards does not mean that a structure will collapse. Many historic bridges that do not meet these standards are perfectly serviceable. For example: AASHTO requires a 30-foot wide deck. This width is impossible to achieve on many historic bridges built when vehicles were narrower and one lane roads commonplace. Yet one community, Allegan, Michigan, found a simple solution. After upgrading the structure, it made the bridge one way. Since other routes served the town, this solution worked well. After some time, a traffic light was installed and two-way traffic resumed. In other cases, similarly non-destructive solutions are available. A bridge that is inadequate for heavy trucks may be more than adequate for other vehicles. The answer in such a case may be to impose lower load limits rather than to destroy the bridge.

The preservation of historic bridges is beginning to gain momentum. The centennial of the Brooklyn Bridge in 1983 drew public attention to the subject, as did the 50th anniversary of the Golden Gate Bridge in 1987. Moreover, the staggering bill for repairs to the Nation's infrastructure in the years ahead is calling attention to alternatives for massive new construction schemes. Several states have initiated historic bridge programs.

Where it has been tried, the repair and reuse of historic bridges have proven much cheaper than replacement. Ensuring the preservation of bridges, however, usually requires commitment. The local government, preservation groups, or other interested parties generally must sponsor a study documenting the condition of the structure and the costs of rehabilitation versus replacement. Such a study should also document the safety history of the bridge. This last is especially important for structures rated "functionally obsolescent" but that are structurally sound. Often the record shows few or no accidents at a particular bridge. If so, then arguments for replacement due to poorly aligned approaches or other "design inadequacies" lose force.

Principal preservation alternatives for historic bridges include continued use for vehicular traffic or conversion to a new use. Continued use for traffic may require that a bridge be dismantled so that each member can be inspected. Sound pieces can be reused. Damaged or deteriorated pieces can be replaced. If the historic structural system is weakened, it can be reinforced—at times so sensitively that the new members do not show.

In other cases of "rehabilitation" bridges may require geometric modification, a more radical intervention than repair. ("Rehabilitation" is the term transportation officials use for upgrading a bridge, as well as for the conversion of a bridge to a new use). Geometric modification might mean widening the bridge deck. In such instances, the historic structural system is kept, but is incorporated into a new one. Geometric modification thus involves

significant changes to a bridge, but it can often be done without destroying the structure's overall historic character.

Other "rehabilitation" treatments might involve changing the alignment of the bridge with the approach roads. Still other solutions, already mentioned, involve no change to the bridge itself, but to the way it is used: converting a span to one-way traffic, or lowering load limits. A final way to reuse a bridge for vehicular traffic is to move it. A structure that cannot serve one location may work perfectly well elsewhere. This is not possible for concrete bridges, but is a relatively straightforward matter for metal ones.

Keeping a bridge in vehicular use is not always possible. Many communities, however, have found other uses for historic bridges. They serve well when moved to bike paths and hiking trails. Often the new settings enhance the public's appreciation of the structures. In other cases, a new bridge has been built beside the historic bridge. The old one is left to pedestrians—and fishermen.

Finally, when no acceptable new use can be found, it may be necessary to dismantle a bridge, catalogue its parts and store it until a new owner is found. In such cases, and when demolition is unavoidable, the structure should be recorded to standards set by the Historic American Engineering Record.

Exhibit on Historic Bridges

The American Society of Civil Engineers and the Historic American Engineering Record present "Spanning America: Photographs from the HAER Collection." The exhibit is on view at the ASCE Washington Office, 1015 15th Street, NW, until April 26, 1991.

Organizations

American Association of State Highway Transportation Officials
444 North Capitol St., NW
Suite 225
Washington, DC 20001

Federal Highway Administration
400 Seventh Street, SW
Washington, DC 20590

Historic American Engineering Record (HAER)
National Park Service
P.O. Box 37127
Washington, DC 20013-7127

History and Heritage Committee
American Society of Civil Engineers
1015 15th Street, NW, Suite 600
Washington, DC 20005-2605

National Society for the Preservation of Covered Bridges c/o Mrs. Arnold L.
Ellsworth 44 Cleveland Avenue Worcester, Massachusetts 01603

Society for Industrial Archeology c/o National Museum of American History
Smithsonian Institution, Room 5020 Washington, DC 20560

For Further Reading

Chamberlin, William P. *Historic Bridges—Criteria for Decision Making*. Washington, DC: Transportation Research Board, National Research Council, 1983.

Comp, T. Allan and Donald Jackson. "Bridge Truss Types: A Guide to Dating and Identifying." *History News*, 32(May 1977), No. 5 (Technical Leaflet 95).

DeLony, Eric. "HAER's Historic Bridge Program," *IA: The journal of the Society for Industrial Archeology*, Vol. 15, No. 2 (1989).

Jackson, Donald C. *Great American Bridges and Dams*. Washington, DC: The Preservation Press, 1988. Ohio Department of Transportation. *The Ohio Historic Bridge Inventory and Preservation Plan*. Columbus, 1983.

Plowden, David. *Bridges: The Spans of North America*. New York: W.W. Norton, revised, 1984.

Spero, Paula A.C. and Howard Kittell. "Trial Guidelines for the Conservation of Virginia's Historic Bridges." Charlottesville: Virginia Highway and Transportation Research Council, 1986.

Notes

¹ Andrew C. Lemer, in "Bridges: Symbols of Progress: Richard Margolis." Exhibit brochure, Arts in the Academy, National Academy of Sciences, Washington, DC. September 18, 1990—January 10, 1991; Jim McCluskey, "Bridges: A New Dimension in Architecture?" *A Future for our Past: No. 35-*. 1989: *Bridges*, Integrated Conservation of the Historic Heritage Division, Council of Europe, pp. 4-7.

² US, Department of Transportation, *The Status of the Nation's Highways and Bridges: Conditions and Performance and r Highway Bridge Replacement and Rehabilitation Program* (Biennial Report of the Secretary of Transportation to the U.S. Congress). Washington, DC: Government Printing Office, 1989.

³ William P. Chamberlin, *Historic Bridges—Criteria for Decision Making*. This study by the Transportation Research Board served as the basis of this article. To a lesser extent, the authors have also relied on Donald C. Jackson, *Great American Bridges and Dams*. For complete citations, see sources listed in "For Further Reading."

Eric DeLony is chief and principal architect, Historic American Engineering Record. He is considered defender of the industrial engineering patrimony and has been with the HAER program since its inception in 1969.

Michael I. Auer is preservation program specialist, Preservation Assistance Division. He holds a Ph.D. in American Literature and has worked for the National Park Service since 1977.

The Role of Interpretation in Education

Harry A. Butowsky

In the Summer 1990 issue of *Interpretation*, NPS historian Sandra Weber posed the question of whether or not we in the National Park Service fully accept our role as educators and equal partners with classroom teachers in educating our park visitors about the complexities of nature and the unforgettable events of American history. This issue, according to Ms. Weber, not only impacts on the survival of our national resources but also bears on the larger matter of the general knowledge park visitors have of themselves and the world they inhabit. Ms. Weber's question, concerning our role as educators and the interplay between interpretation and education, deserves thoughtful consideration and is the subject of this article.

Through the interpretation of our parks, National Historic Landmarks, National Natural Landmarks, and National Register sites we realize the full dimension of our national heritage in such diverse fields as biology, geology, ecology, political and military history, labor and industrial history, the civil rights struggle, and a host of other subjects. Indeed, one of the key provisions of the Historic Sites Act of 1935 requires that the National Park Service "Develop an educational program and service for the purpose of making available to the public facts and information pertaining to American historic and archeological sites, buildings, and properties of national significance."

Each park and historic site has its own story to tell. Each is in its own way unique and important to the American people. National Park Service publications including *History and Prehistory in the National Park System and the National Historic Landmarks Program* and *Natural History in the National Park System and the National Registry of Natural Landmarks* contain almost three thousand references to sites, organized by theme, that illustrate this process. These publications and the interpretive material available for the public at our parks offer an immense educational resource. One example of this statement is found in the history of the origin and growth of early American constitutional democracy which is richly illustrated through the interpretation of the historic buildings at Independence National Historical Park.

Independence National Historical Park

Visitors to Independence learn of the drafting of the Declaration of Independence in 1776. They are told how the Declaration officially declared to the world the severing of the links that bound the American colonies to Great Britain and enunciated Thomas Jefferson's classic statement of the doctrine of popular sovereignty and the people's right to resort to revolution thereby becoming one of the greatest revolutionary documents ever penned.

Visitors also learn how a few years later Independence Hall was the site of the drafting of the U.S. Constitution, a document that built on the philosophical foundation of the Declaration and formed the government under which we operate today.

However, as important as these events are, they mark only the beginning of American constitutional history. There is more to the story.

First and Second Bank Buildings

In order to survive and prosper, the American Constitution had to grow and mature as the country grew and matured. The Constitution was the framework that the founding fathers bequeathed to subsequent generations of Americans who had the task of filling in the details. In 1789, soon after the meeting of the first Congress of the United States, Alexander Hamilton, the first Secretary of the Treasury, proposed to solve one of the most pressing

problems of the age—the need to put the new government on a sound financial footing. To accomplish this Hamilton proposed to charter a national bank.

Hamilton's proposal was attacked in Congress on constitutional grounds. The opposition was led by James Madison and Thomas Jefferson who opposed the economic implications of Hamilton's program and the drift toward a powerful central government.

In the Constitutional Convention, Madison proposed that Congress be empowered to grant charters of incorporation, but the delegates had rejected his suggestion. In view of this action, he now believed that to assume that the power to incorporate could rightfully be implied from other clauses in the Constitution would be an unwarranted and dangerous precedent. Both Madison and Jefferson advocated the doctrine of strict construction of the constitution and maintained that the bank bill was unconstitutional.

Hamilton disagreed. In reply he presented his classic explanation of the doctrine of the broad construction of Federal powers under the Constitution. He claimed for Congress, in addition to expressly enumerated powers, resultant and implied powers. Resultant powers were those resulting from the powers that had been granted to the government, such as the right of the United States to possess sovereign jurisdiction over conquered territory. Implied powers were those derived from the "necessary and proper" clause. He rejected the doctrine that the Constitution restricted Congress to those means that are absolutely indispensable. Although Washington agreed with Hamilton and eventually signed the bank bill into law, discussion on this matter was not ended. Arguments over issues involving a strict or broad interpretation of the powers of the Federal Government continue to this day.

The charter of the First Bank of the United States expired in 1812 leaving no central financial institution for the United States. As a result the United States found it difficult to repay loans secured to finance the war. Foreign credit was in poor standing, there was no uniform national currency and bank notes could not be exchanged for gold. Because of this situation, many Americans who had opposed the First Bank of the United States changed their minds and supported establishment of the Second Bank of the United States in 1816.

Although the establishment of the bank was accepted by many Americans, President Andrew Jackson criticized it and reopened the question of its constitutionality. Acknowledging the Supreme Court's affirmation of the bank in *McCulloch v Maryland* (1819), in which Chief Justice John Marshall accepted Hamilton's interpretation of implied powers, Jackson discounted the significance of this decision by asserting that the political branches were not bound by the judiciary's reading of the Constitution, but rather were obliged to interpret the fundamental law themselves.

Jackson believed that by exempting the private business of the bank from state taxation, the recharter bill attacked the powers reserved to the states. Perceiving himself to be the champion of the people, Jackson defied both the Congress and the Supreme Court when he thought necessary. His veto of the bank bill set forth two clear and distinct messages—that the Supreme Court was not the final arbiter of all constitutional questions, and that the President could exercise a judgment independent of Congress, upon matters of policy, presumably even where constitutional issues were not involved. Previous presidents had vetoed bills on constitutional grounds only. Jackson's veto changed this pattern and anticipated later presidential vetoes and the growth of the system of checks and balances inherent today in the relationship between the executive, legislative, and judicial branches of government.

Independence National Historical Park not only interprets the story of the drafting of the Declaration of Independence and the Constitution but also illustrates the evolution of the great constitutional issues that concerned early Americans. It was in the successful resolution of these issues that our modern democratic system is based today.

Other historic parks and sites do the same for the development of additional facets of our natural and cultural heritage. Through the interpretation of these sites to the American people, the National Park Service provides educational assets of national significance to the American people. The education of the public is not only the key to the survival of these

resources, but is also the key to our survival as a nation in an increasingly complex and interdependent world.

Dr. Harry A. Butowsky is a historian in the History Division, National Park Service. He is author of numerous articles concerning the history of the American Constitution and teaches American History at George Mason University in Fairfax, VA.

Using the National Register Database to Assist Interpretation

Amy Federman

The National Register Branch of the Interagency Resources Division is working closely with the Washington Office divisions of Interpretation and History and historians and interpreters throughout the Service to make National Register data accessible to the field. The National Register of Historic Places currently is a database of over 56,500 properties of local, state, and national significance. It is a source of valuable research for cultural resource and interpretive staff working to strengthen links between research and interpretation with limited funds. Using the National Register documentation can also work to strengthen the goals of heritage education and the national preservation ethic by broadening the awareness of National Park visitors to significant places in our past.

The National Register includes records of significant buildings, sites, structures, objects and districts important at the local, state, and national level. Compiled over the 25-year history of the National Register by agencies such as the Park Service and State Historic Preservation Offices, these records are stored in a database format which can be searched by theme, geographic region, and time period to identify places and records of interest to interpreters and the public. Information has been collected, for example, on historic resources which place the story of a particular site into its historic context. A database search could identify historic places adjacent to the site's boundaries which carry the site's themes.

Ways to Use the Information

Accessing National Register listings for sites with themes similar to those researched and interpreted at the site and using information on these places as part of interpretative exhibits and oral programs.

Making information available to visitors about nearby significant sites open to the public for visitation.

Providing examples of sites with similar themes which have ongoing research and interpretation programs to exchange ideas for various types of interpretative programming.

Information Available

Lists of National Register properties searched in a database format by theme, time period, geographic area or other categories available through the National Register database.

National Register forms, including descriptions and statements of significance.

Information on how to access the National Register database from the field.

Specialized information on how to recognize special types of historic properties such as designed and rural landscapes, maritime resources, properties less than 50 years old, and traditional cultural properties.

Slide shows and other materials describing the criteria for placing properties on the National Register.

The complete volume of National Register listings from 1966-1988. For purchasing information, contact the American Association for State and Local History, 172 Second Ave N, Suite 202, Nashville, TN 37201; 615-255-2971.

The National Register has undertaken a project to make National Park Service staff aware of the full potential of the database as a research source. Amy Federman, historian, National Register Branch, Interagency Resources Division, is collecting information about ways the information has been used, and continuing to provide any of the above items to the

field. Contact her at the Washington Office or at 202-343-9536 to request database queries, nomination forms, or any other information about this project.

The **Role of Interpretation in Education** Americans who had opposed the First Bank of the

FPF Takes Action

Diane Gelburd

Beginning as a fledgling organization a year ago, the Federal Preservation Forum (FPF) is now off and running, tackling issues of importance to all historic preservationists. At the November meeting, significant issues were discussed and committees formed. The first newsletter is out and promises to be a critical forum for communication. It includes a cooperation column and question-and-answer section (FPF's answer to "Dear Abby").

Sessions at the meeting included Section 106 and the Future Challenge, Indirect Effects, The Role of the National Register in Federal Preservation Programs, Status of National Issues, Where is the Historian in CRM?, and Curation of Cultural Materials. A discussion on the CRM issues of the '90s focused on curation; going beyond Section 106; the National Register of Historic Places' role; Native American concerns, including repatriation and reburial; and public education.

It was agreed that a dialogue should be initiated with the National Register of Historic Places to resolve chronic problems, and that a committee be formed to work with the Advisory Council on Historic Preservation to improve the Section 106 process (the Air Force discussed a recent paperwork snag that cost them \$1.5 million in construction delay payments). Also, technical expertise exchanges between Federal agencies would be a good and useful tool. Marty Reuss, U.S. Army Corps of Engineers Historian, Office of History, Ft. Belvoir, Virginia, is heading this effort. Two FPF committees are the Nominations Committee, chaired by Ruthann Knudson, National Park Service archeologist, Archeological Assistance Division, Washington, DC; and the Section 106 Committee, co-chaired by Diane Gelburd, historic preservation officer, Soil Conservation Service, Washington, DC, and Jerry Wylie, regional historic preservation officer, U.S. Forest Service, Ogden, Utah.

The next FPF meeting will be held on June 25-27, 1991 at the National Archives, Washington, DC. Plans are to have the following sessions: area of potential effect and indirect effects; a dialogue with the National Park Service regarding the development of regulations for the Native American Graves and Repatriation Act; the future of the National Register insofar as Federal agencies are concerned; a discussion with NPS, the Advisory Council and the National Conference of State Historic Preservation Officers regarding programs of which they believe the Forum should be aware; and one day of sessions developed by the meeting co-sponsor, the Society for History in the Federal Government. Brit Storey, senior historian, Bureau of Reclamation, Denver, Colorado is organizing the June meeting. The Fall 1991 meeting will be held in Seattle, Washington, on December 3-5, 1991.

To be placed on the FPF mailing list, please write to Bruce Eberle, Secretary, Federal Preservation Forum, Office of Environmental Policy, HEV-20, Room 3240, Federal Highway Administration, Washington, DC 20590.

The Spirit of Place

Jill Cowley

On September 19-23, 1990, American Indian elders and leaders, designers and planners, artists and writers, scientists, shamans, and others from all over the country came to Mesa Verde to share their research, ideas, and concerns about a very important kind of cultural resource—sacred places. Put on by the Institute for the Study of Natural Systems, the purpose of the Third Annual Spirit of Place Symposium was to "articulate the way in which traditional cultures, especially American Indians, view place, especially sacred places, and the significance of this place consciousness to modern society, both for heritage conservation and finding new answers to pressing needs to create sustainable communities".* [*Institute for the Study of Natural Systems, Third Annual Spirit of Place Symposium, Symposium Program.]

At the previous two Spirit of Place Symposia, participants agreed that "sensitive awareness of place is an important factor in health, creativity, and creating a viable sense of community." Some conclusions from the past two years are: 1) places of sacred significance are a common element of all indigenous cultures; 2) sacred places have more "energy" (e.g. stronger electromagnetic fields); 3) in the United States, there is little representation of sacred places within established preserved landscapes, and; 4) an understanding of sacred qualities is essential to good landscape design.

I organized an NPS panel because I saw the opportunity within the Spirit of Place program to encourage dialog between this community of people interested in the preservation of sacred places and the National Park Service. Following is a summary of each panel member's talk, which together make up a "southwest sample" of NPS activities in the area of preservation of sacred values and sacred resources.

The National Park Service and the Issue of Respectful Treatment of Human Remains.

**Tanna Chattin, Assistant Regional Director, Communications,
Southwest Regional Office.**

H.R. 5237, the Native American Grave Protection and Repatriation Act (P/L/ 101-601) has passed! The National Park Service will be responsible for writing and implementing the regulations. Obviously, for as long as the National Park Service has collected and repositied excavation materials, it has been interested in the correct keeping of human remains. The definition of correct has evolved, and marked changes in agency attitudes now precludes any skeletal parts being publicly displayed. Even more recently, one archeological operation has excluded the excavation of any burial material.

In my own observation, the National Park Service is awakening to its sense of spiritual mission. The NPS is listening and responding to the American Indian community; perhaps the spirituality of the agency is coming into balance.

Working with the visage of human generated cultural remains means working with the passage of human spirit regardless of whether it is reflected in the spirit of vision in design and construction, in the development of agronomy, or other cultural activities. I don't believe you can work with the remains of culture without an awareness that these people believed and practiced a spiritual order, and that the spiritual essence is still present.

Barry Cooper, Superintendent, Aztec Ruins National Monument, New Mexico.

The respectful treatment of human remains depends upon the cultural context or situation. Each culture has its own concept of how human remains and the associated funerary objects should be treated. In the large majority of cases Anasazi burials were done in a manner similar to prevalent modern practices of our own culture. The remains were usually carefully prepared for burial in the ground along with accompanying personal or ceremonial items.

The most difficult change for us to bring about will be that of considering the remains and associated funerary objects of ancient cultures as items of curiosity and scientific value to be studied. We have justified this attitude within our own culture as necessary for the advancement of scientific knowledge and preservation of ancient civilizations and cultures. We should be treating these remains the same as we would the remains of members of our own culture according to accepted legal practices and cultural values or, if they are known, according to the accepted practices of the ancient culture's modern descendants.

The key factor is to give other cultures the same respect as we would expect from them.

The Mystery of Mesa Verde National Park

Robert C. Heyder, Superintendent, Mesa Verde National Park, Colorado.

Mesa Verde constantly deals with the paramount issue of the preservation of over 4,000 known cultural sites and 1.5 million curated artifacts. Undoubtedly many more will be found as we continue to research the Anasazi.

We also continually face the issue of increasing numbers of tourists. This park has great significance to many people. Not only is Mesa Verde a unique national park, it is a World Heritage Site visited by people from all corners of the globe. It is not uncommon to hear German, Italian, Japanese and even the "Queen's English" being spoken on a daily basis in the archeological museum.

Perhaps some of the charm and interest in Mesa Verde is the result of not knowing all of the "answers" about the Anasazi. In reality we know very little about the lives of these people who lived here many years ago. Archeologists are still investigating questions about their social organization, use of the land, and the reasons they left the Mesa Verde after nearly 1,200 years of occupation.

Perhaps many of these questions will always remain. Personally, I hope in many ways that we never find all the answers, for then what will we look for?

Preserving Sacred Sites through Cooperative Planning at El Malpais National Monument and Conservation Area, New Mexico

Joan Mitchell, Chief, Branch of Planning, Southwest Regional Office.

Consider these two views of the spectacular volcanic formations in El Malpais:

1. This land is administered by Federal agencies, who manage the resources and provide for visitors. It is an area of rich scientific, educational, scenic, and recreational values.

2. "We have taken care of the land long before the BLM and the NPS were here. We want to continue our sacred relationship and to use it as we always have. As a source for our spirituality, the continuation of our way of life and our survival as a people."*

How can agencies best consult with Indian groups to include both views within a management plan for El Malpais? 1. A lot of time and energy is needed to build trust and understanding. The Indian leaders will need even more time and effort to build consensus within their community. It may help to fund a liaison position for a tribal member to help with the extensive consultations 2. Look for common concerns like preservation of sites and

landforms. 3. Emphasize face-to-face meetings and personal contacts. 4. Field trips with religious leaders can be invaluable. 5. Schedule meetings and public review periods with sensitivity for Indian ceremonial activities and other events. 6. The chairman, governor and tribal council may represent one political faction who may or may not be in agreement with religious leaders.

*From an open letter from the Ramah Chapter of the Navajo Nation to the National Park Service and Bureau of Land Management

The Spirit of Pecos

Ann Razor, Chief Ranger, Pecos National Historical Park, New Mexico

Pecos has been a home for 10,000 years. After being settled around 800 AD, the Pecos Valley saw the growth of one of the greatest towns of the region—the Pecos Pueblo with over 2,000 inhabitants by the 16th century. Located 20 miles from the Pecos River headwaters, it controlled the access and the plains trade routes into the Rio Grande Valley. Plains goods passed through Pecos in exchange for puebloan materials. Playing this role, Pecos may have been the most cosmopolitan of the pueblos. Pecos was visited early by Spanish explorers and settlers, and Franciscan priests, seeking souls for Catholic Spain, established a mission at Pecos by 1600.

After a period of change and disruption marked by the Pueblo Rebellion of 1680, Pecos began its slow decline. The population was worn down by disease, the trade economy was destroyed by a 40-year war with the Comanche, and, in 1838, the remaining Pecos emigrated to their cousin pueblo of Jemez where their descendants live today.

Pecos is still a sacred place to the people of Jemez who are descended from those original emigrants. Shrines within the park are still visited and Jemez Pueblo still celebrates the Pecos Feast Day on August 2. Several Pecos descendants are our summer weekend demonstrators. Pecos is still connected to its past.

Managing a Sacred Place

Herb Yazhe, Superintendent, Canyon de Chelly National Monument, Arizona

Canyon de Chelly, I think, is very unique—it is the only area in the National Park System where the NPS doesn't own the land. SG what are we doing here? The National Park Service, the Navajo Tribe, who owns the land, and the Bureau of Indian Affairs worked closely together to establish the monument. The NPS has primary responsibility for cultural resource management and visitor services. As the first American Indian Superintendent at Canyon de Chelly, I think it is good that we have a number of Indian people on the staff.

There are many issues we face in protecting the cultural, archeological, and sacred places in the Canyons. Communication is a big issue at Canyon de Chelly—communication between the staff, canyon residents, Window Rock, other Tribes, the BIA, and others. Park rangers have been visiting monument residents, sitting down and having a casual conversation, to find out what they feel about the Park Service. We have been getting good feedback, and I think this will be our answer—to work closely with the people of the area. Also, we employ members of other tribes and pueblos so that we can exchange ideas, especially in interpretation work.

Conclusion

The panel was very well attended and received. Questions asked of panel members dealt primarily with management concerns, e.g., how management deals with non-American

Indian offerings brought into parks, with temporary closures for ceremonies, and with the fact that there may be many sacred areas within parks of which management is unaware. The NPS panel provided an opportunity within the Symposium for participants to discuss actual examples of sacred resource preservation and consultation with American Indian groups with agency representatives.

Jill Cowley is landscape architect in the office of the assistant regional director, Southwest Region, National Park Service.

Keepers of the Treasures

The tribal cultural heritage/historic preservation conference held at the Osage Reservation December 4-6, 1990 was well attended. More than 160 participants representing more than 50 tribes came from the lower 48 states and Alaska.

Representatives from six Federal agencies that give financial support and technical assistance for cultural heritage programs and projects gave valuable advice. The second day was devoted to language preservation issues. A wide range of issues were presented by representatives from the Makah Nation, the Southern Ute tribe, the Red Lake Band of Chippewa, Mississippi Choctaw, the Osage Nation, and Native Hawaiians. Representatives from the National American Indian Language Institute gave a presentation on tribal language codes as a way to preserve tribal languages. Many others shared their experiences.

The Osage Nation provided a warm welcome with traditional meals and entertainment. Their hospitality was appreciated by all. As hosts, the Osage set a very high standard for the future.

One purpose of the conference was to discuss the findings and recommendations of the National Park Service report entitled "Keepers of the Treasures," sent to Congress by Secretary of the Interior Lujan in September, 1990. One of the report's recommendations was to consider chartering a national organization devoted to the promotion and preservation of the cultural heritage of Native Americans (see box).

One of the most exciting outcomes of the conference was the decision to form such an organization. They established a committee of tribal representatives nationwide, subject to approval by their tribal councils. The committee's chairman is Dr. Michael Pratt of the Osage Nation; the Secretary is Mary Proctor of the Cherokee Nation. Administrative support for the committee was offered by the historic preservation office of the Navajo Nation. Dr. Pratt will be contacting all those who attended the conference and others to get their ideas about how to proceed.

Proceedings from the conference will be developed over the next few months. Highlights from that document and photographs from the conference will appear in a future issue of *CRM*.

The "Keepers of the Treasures" Conference was very special. Those who participated were affected by the conference in a very personal way. As one woman wrote afterward:

The experience was so much more than the standard conference. We returned to Lac du Flambeau with
the feeling of having been *nourished* as Indian people.

The Service will continue to cosponsor meetings such as this one, and will assist as appropriate as the new Native American cultural heritage organization develops. For further information, contact Patricia Parker at 202-343-9505 or Emogene Bevitt at

202-343-9561. —Patricia Parker

Consulting About Archeology Under Section 106

Condensed from a fact sheet produced by the Advisory Council

Section 106 of the National Historic Preservation Act (NHPA) requires Federal agencies to take into account the effects of their undertakings on properties included in or eligible

~ for the National Register of Historic Places and afford the Council the opportunity to comment on such undertakings. Section 101(a)(1) of the act defines properties "significant in American... archeology" among those that may be included in the Register.

Issues Involving Archeology

The Advisory Council on Historic Preservation has long been concerned about the treatment of archeological properties. Cases involving archeology are frequently characterized by a lack of comprehension on the part of Federal agencies and other involved parties. The importance of archeological sites is often difficult for non-experts to understand in the same way that they can appreciate a "colonial" building or a 19th-century historic district. One important question that is often raised is: "How much archeology is enough to mitigate the adverse effects of Federal construction projects in quantity, quality, and budget?"

There is no simple standard by which to determine how much archeological study is sufficient. The nature, scope, and boundaries of each archeological program should be determined by the parties consulting under the Council's regulations, guided by certain basic principles.

Archeological Principles

1. Protection of archeological values and pursuit of knowledge about the past is in the public interest.

Archeology seeks to explore and answer major questions about human nature, human history, and the changing environment in order to better understand the world and prepare for the future. Archeology also can contribute directly to public understanding, and hence appreciation, of the history and prehistory of places and groups. This can be accomplished in part through in situ exhibits, museum displays, and "hands-on" field experience and reporting archeological discoveries in popular and scholarly publications.

2. Archeological properties are important wholly or in part because they may contribute to an understanding of the past, and this understanding may bear on present and future problems.

Archeology is often erroneously perceived as involving only excavation of archeological sites containing impressive remains of buildings and other artifacts of great beauty or intrinsic value. Archeologists, however, know that many significant sites may contain nothing but fragments of pottery, flint, or glass. Whatever its contents and context, the principal defining characteristic of an archeological property is that it can be studied in order to increase our understanding of the past. Much of what is learned about the past contributes to the body of knowledge about such things as the general processes of environmental or societal change.

3. Not all archeological values, including research problems, are equally important; hence, not all archeological properties are equally important.

Archeologists address problems that are of importance to many academic disciplines. Archeologists also

address questions of importance to local communities and social groups: What was their town like 100 years ago? How did people live 5,000 years ago? Finally, archeologists address technical questions that may have no obvious and immediate value: How do refuse piles change over time into archeological sites? Defining and investigating technical questions help archeologists become more skilled at interpreting the archeological record and thus better able to manage archeological resources.

4. Treatment of an archeological property depends on its value for research weighed against other public values.

All else being equal, any property that contains information that may help answer important research questions should be preserved in place for long-term study by qualified scholars; however, since all else is seldom equal, this ideal often cannot be attained. Decisions about treatment of archeological properties requires weighing the research value of each property or group of properties against at least three other considerations, including other aspects of the property's significance, as well as traditional and current uses; other societal needs, most obviously those needs that stimulate the Federal undertaking that may affect the property; and the property's preservation potential (see #5 below).

5. If an archeological property can be practically preserved in place, it should be, but simple avoidance does not equal preservation.

It is impossible to determine with finality which questions need to be asked about the past and which do not. New questions about the past are always developing from old ones, requiring different kinds of information examined in different ways. Field study and analytic techniques are constantly evolving, making it possible to address questions beyond the scope of older methods. Clearly there is a danger in preserving only those archeological properties viewed as valuable today; using that criterion, properties that may be of great value in the future may be destroyed.

Accordingly, it is appropriate to preserve in place as large a range of archeological properties as possible, even if it is difficult to define precisely how to use the information they contain at present. There are obvious practical limits to application of this principle, but as a rule, if an archeological property can be left in place and preserved from damage practically, it should be.

However, simply avoiding impacts to an archeological site is no guarantee that it will be preserved for the future. Affirmative steps need to be implemented to protect avoided sites from further natural degradation, vandalism, or other potential impacts.

6. Data recovery and destruction without data recovery, as well as preservation without data recovery, may all be appropriate treatments for archeological properties.

Where it is not practical to protect an archeological property in place, one of two things may occur:

- The adverse effect of the property's destruction may be negated or mitigated through recovery of the valuable data contained in the property; or
- Destruction of the property, without recovery of data, may be accepted by the consulting parties as a regrettable but necessary loss in the public interest.

If the data contained in the property can be used to address valuable research questions, the data should be recovered. If the data cannot be so used, data recovery is an inappropriate use of public funds and should not be undertaken.

7. Human remains deserve respect and should be treated appropriately.

When a decision to excavate a site is made, it is quite possible that human remains may be encountered. Graves and their contents are important sources of information when studied by archeologists and other specialists, but human remains also are the remains of the living and often hold great emotional significance for their descendants.

The question of how to treat human remains and grave goods has become a controversial one. American Indian groups, for example, tend to insist that the remains of

their ancestors be immediately reburied or returned to them for reburial. Most archeologists, on the other hand, argue that such remains should be subjected to scientific study because of the information they represent.

In 1988, the Council reviewed the question of how human remains and grave goods should be treated and adopted a policy statement to which Council staff adheres in reviewing undertakings under Section 106. This statement says in part that:

- "Human remains and grave goods should not be disinterred unless required in advance of some kind of disturbance, such as construction;
- Disinterment, when necessary, should be done carefully, respectfully, and completely, in accordance with proper archeological methods;
- In general, human remains and grave goods should be reburied in consultation with the descendants of the dead;
- Prior to reburial, scientific studies should be performed as necessary to address justified research topics;
- Scientific studies and reburial should occur according to a definite, agreed-upon schedule; and
- Where scientific study is offensive to the descendants of the dead, and the need for such study does not outweigh the need to respect the concerns of such descendants, reburial should occur without prior study. Conversely, where the scientific research value of human remains or grave goods outweighs any objections that descendants may have to their study, they should not be reburied, but should be retained in perpetuity for study."

8. Once a decision is made to undertake data recovery, the work should be done in a thorough, efficient manner using a research design and data recovery plan based on firm background data and planning.

A decision to conduct data recovery is an investment, both of the archeological property involved and of Federal, and sometimes non-Federal, funds. It is, therefore, important to get the most meaningful return on the investment. It follows that:

- Research questions to be asked through the data recovery effort should be defined as clearly and precisely as possible, and the methods employed should be directed toward answering the questions efficiently;
- Wherever possible, the data recovery effort should be made to serve multiple public interest needs. For example, if it can serve educational needs by involving school classes or volunteers, if it can serve social and economic needs by providing employment to the unemployed, or if it can serve planning needs by incorporating new management or analysis techniques of an experimental nature without jeopardizing the primary purpose of the data recovery work, it should be made to do so;
- Data recovery should employ the fastest, least expensive techniques that will yield the desired research results, and
- Data recovery budgets should be carefully developed and justified.

9. Data recovery should relate positively to the development of regional, state, and local historic preservation plans, the application of state-of-the-art methods, the consideration of professionally established research priorities, and the needs of land and resource managers.

Decisions about what sorts of data to seek and how to seek them cannot be made in a vacuum; it is necessary to know, insofar as is feasible, the historical, environmental, and theoretical context in which the work is being conducted. It follows that:

- Data recovery plans should be based on a reasonable level of prior survey to identify the universe of archeological properties and the overall environment within which one is planning;
- Data recovery should be preceded by appropriate levels and types of background research and site evaluation, addressing relevant aspects of local history and prehistory, the local environment, theoretical and methodological issues pertinent to the research topics to be addressed, integrity of the site, and so on; and

- Data recovery should be carried out in accordance with a comprehensive plan that has been subjected to appropriate review and consultation with concerned parties, including the State Historic Preservation Officer (SHPO), the Advisory Council on Historic Preservation, and other authorities or interested organizations.

Central to this work is the establishment of "historic contexts" and other aspects of the state historic preservation plans to guide research and data recovery priorities and methods; conversely, data recovery efforts should produce information that supports development and refinement of the plans.

10. Where data recovery is agreed upon as the appropriate treatment of an archeological property, completion of an approved data recovery plan with adequate provisions for analysis, reporting, and curation completes an agency's data recovery responsibilities.

An agency's responsibilities toward the data in question are at an end when it has: (a) responsibly identified archeological properties eligible for inclusion in the National Register, (b) considered alternatives to preserve the properties in place, (c) obtained Council comment through the steps outlined in 36 CFR Part 800, (d) implemented a data recovery program developed through this process, (e) ensured proper curation of recovered materials and dissemination of data to scholars and the public, and (f) where appropriate should include additional special recognition of the public's interest through onsite interpretation and participation.

Conclusion

Treatment and management of archeological properties should be conducted in a spirit of stewardship for future generations, with full cognizance of their nonrenewable nature and their potential multiple uses and public value.

Archeological resources are subject to enormous pressures and competing interests. Public land managers and private property owners, for example, may be ignorant of them, ignore them, be hostile toward them, assist in their vandalism, protect them, or aggressively manage them in positive ways. Conservation should be the preferred approach; decisions directly or indirectly affecting archeological resources should be made with an awareness, if not a complete understanding, of the consequences for those resources.

Truly responsible treatment and management of archeological properties goes beyond that awareness of consequences, the "take into account" standard of planning mandated by the National Historic Preservation Act and other authorities, to actively use archeological resources and the information they contain.

The Past as News

Brian M. Fagan

Five years ago archeologist Larry Willcoxon was surveying the Guadalupe sand dunes 50 miles north of Santa Barbara, CA, looking for prehistoric shell middens along the resource rich Pacific coast. Instead, he stumbled on a find that was to echo around the world, the collapsed set for Cecil B. de Mille's "The Ten Commandments," filmed in 1921.

"The Ten Commandments" was an early Hollywood silent film epic. It featured the parting of the Red Sea and cost the then colossal sum of \$2 million to make. Some 300 carpenters labored to build a vast wood and plaster set on the summit of the Guadalupe dunes. Huge sculptures of horses and chariots adorned its fake temple facade, and an avenue of stucco sphinxes led from its entrance into the surrounding "desert."

Twelve hundred men and women camped near the set, their dormitories separated by armed guards. The movie completed, de Mille demolished the set. Everything was piled up on the dunes and abandoned.

Enter Peter Brosnan, an independent film producer with a lifelong interest in de Mille and plans for a public television movie of the filming of "The Ten Commandments," complete with the parting of the Red Sea. He learns of Willcoxon's discovery and plans an archeological excavation, scientifically executed, as part of his movie. Archeologists agree to help, if Brosnan provides funding for serious excavations.

Then the phones started ringing—*People*, *Smithsonian*, and *Natural History* magazine articles, the *Times* of London and 10 other newspaper stories, plus 12 local TV and ABC and NBC national news spots, and 20 radio interviews for stations as far away as Australia—and the archeologists collapsed, exhausted.

Cecil B. de Mille's movie set had received more publicity than almost any other archeological discovery except the tomb of Tutankhamen. The funny thing is that no excavation ever took place. Brosnan's fundraising efforts came to nothing, despite all the publicity he generated. This story epitomizes the dilemma that confronts archeologists when dealing with the press and the public. There are, of course, certain types of archeological stories that are almost guaranteed national and even international coverage. Many of these are discoveries or excavations sponsored by major institutions such as the National Geographic Society. Archeologists do not have public relations budgets to compete with the National Geographic Society, nor finds usually in the same league with its undertakings. How, then, can they deal with the media and work with the press to communicate with a wider audience? One option is the institutional press office. In these days of ardent competition for research dollars and government agencies with their own public relations staffs, archeologists can often work with official public relations people in the universities, public agencies, or private firms for whom they work. Many archeological stories in the press originate this way. All of the archeological stories appearing in the *Los Angeles Times* during one three-month period, with the exception of two local stories about site destruction, were wire service releases. Clearly, all of them had emanated from public relations departments, and the stories showed it. Six stories were filled with obfuscatory jargon. They spoke of artifacts as if they were mysterious objects fathomable only by an expert. There were quotes from archeologists, which in four cases said exactly the same thing about archeology, that it is not just artifact collecting but science. The effect was both platitudinous and slightly patronizing. Perhaps worst of all, many of the stories were self serving, designed to enhance the image of an institution rather than to communicate the importance of the research. Archeologists should be careful when dealing with institutional press offices. If approached by one wishing to use its services, they should insist on some simple ground rules: * Meet with the person writing a release on several occasions, both during research for the story and while it is being written; * Review the draft copy and insist that no changes

are made after it is amended, and insist, also, on reviewing the final version before it is released; * Never allow a press release to be written from printed materials alone, and, if possible, make sure the writer visits the excavation or laboratory to see elements of the story first hand; * If local media are being offered the story, try to arrange a personal interview and thus be able to tailor make the story for local consumption, and sometimes acquire expanded coverage; and * If there is talk of television or radio interviews, insist on the right of refusal to appear. In some instances archeologists have been booked for on-the-air appearances when they had no desire to make them on the grounds of institutional promotion. Remember that it is the archeologists' research and the archeologists' discovery, not the institution's. Despite these negative factors in public relations offices, most such organizations are staffed by pleasant, cooperative writers who are genuinely interested in the archeologist's work. In the final analysis, however, with or without institutional assistance archeologists are on their own and must develop their own media constituency.

Archeology is almost unique among the sciences in having an interested public following. In this time of eroding archeological records, wholesale looting, vandalism, and social condoning of pot hunting, good press relations are a basic responsibility of any late 20th century archeologist.

Few archeologists will ever find a pharaoh's tomb or buried gold. Any who do will find press relations problems solving themselves. Most finds are of purely local, or perhaps regional, importance. In most cases finds are far from spectacular, even, sometimes, frankly dull. But the information that comes from them is of more than passing local significance and educational value. This is where archeologists can work miracles with public relations, provided they develop close links with the local media.

The number of occasions on which archeologists have worked personally with the media to develop a story around a lecture that related to their own locally important work have been few and far between. They have missed golden opportunities to make the point that people from outside think the local archeological scene is important. Almost invariably success stories have come in places where archeology and archeologists have become integral parts of the local media scene. When the press and the public know that archeology is important, it is because archeologists have communicated this basic message continually and well. Cultivating the press is an art, one that requires no illusions, a keen sense of which story is important, which is not, and, above all, no delusions of grandeur. Good local press relations mean indirect approaches and lots of hard work. Here are some hints.

* Never refuse an invitation to lecture before a service club, a school class, or a local archeological society. This is one way to meet people and eventually come into contact with the press. And lectures give considerable numbers of people the impression that archeology is to be taken seriously. * Cultivate personal relationships with editors, reporters, television people, and radio station personnel. Try a first approach when there is a dig running, a school group visiting the laboratory, or a new discovery to report. Invariably, a reporter will be grateful for a local story. Everyone complains of pressure on newspaper space and news saturation. But the fact is that a good local story will always receive coverage, and archeology is a natural. Remember that journalism runs on personal contacts, and it will be only a matter of time before a reporter friend repays favors through other contacts, or even reports of discoveries. * If asked for an interview, grant it, but insist on seeing a draft of the resulting story. The same applies to stories run on archeological work; a combination of personal contact and review of drafts should solve the accuracy problem. However, remember that copy editors will take a computer to any story and edit it for length. * Lastly, always cooperate with the press. Generally, these are nice people doing a hard job. A story that seems important to an archeologist very often to a reporter is just another item to cover during a busy day. Respect the pressures and develop friendships; this will earn both respect and cooperation.

The most effective way to reach a wider audience is through systematic local media campaigns. Expensive public television programs are a slow moving, uneconomic way of spreading the word, if the money and a sponsoring station are available. Appearing in a regular local radio spot or writing a newspaper column will get results. At one time professional archeologists looked down on those who bothered to communicate the results of their researches to the general public. That attitude is as dead as the proverbial dodo. The future of archeology depends not on dazzling national publicity and expensive television programs, but on sustained local media campaigns developed by individual archeologists on their own initiative. Such activities are cost effective, achievable, and of limitless potential, and they are fun.

Preservation Resources

CRM Training Directory Available; Next Issue Planned

CRM has recently published a 40-page directory of available training workshops and other classes offered across the United States from October 1990 to December 1991. This publication was compiled from responses to a mail survey conducted during the spring of 1990, when over 700 offices and vendors were solicited for information about training. The directory is organized into two parts: descriptive information on course listings organized by course vendor and indexes which summarize information on locations, time periods, and topics of the courses. This publication was produced by two Washington office divisions, the Interagency Resources Division and the Preservation Assistance Division.

Copies of the publication were distributed to those who receive *CRM*. Additional copies are still available and may be obtained by contacting Amy Federman or Emogene Bevitt at NPS-4131424, P.O. Box 37127, Washington, DC 200137127; telephone 202-343-9536 or 202-343-9561. It is expected that this publication will be updated and issued in September 1991 to include those courses planned from October 1991-December 1992. Staff working on this publication would also greatly appreciate any feedback on the usefulness and format of the directory. If you have any suggestions on possible vendors to include, or have any workshops to include, please contact Amy or Emogene.

LEAP Clearinghouse Report

Listing of Education in Archeological Programs: The LEAP Clearinghouse, 1987-1989 Summary Report is a listing of Federal, state, local, and private projects that promote positive public awareness of American archeology. The report is available for \$13.00 from Superintendent of Documents, Government Printing Office, Washington, DC 20402-9325. Order number is SIN 024-005-01075-1. International customers add 25%.

Publications Available

The Preservation Assistance Division of the National Park Service has prepared two new **Preservation Briefs**.

Preservation Brief 22: The Preservation and Repair of Historic Stucco by Anne E. Grimmer; 16 pps, GPO stock number: 024-005-01066-1, \$1.00 per copy.

Preservation Brief 23: Preserving Historic Ornamental Plaster by David Flaharty; 14 pps; GPO stock number: 024-005-01067-0; \$1.00 per copy.

Order **Briefs** from Superintendent of Documents, Government Printing Office, Washington, DC 20402-9325. Prices include postage and handling and are good through June 1991. After that date call Order and Information Desk at 202-783 3238 to verify prices. International customers should add 25% to their order.

Surplus copies of the following publications are now available from the History Division.

The Civilian Conservation Corps and the National Park Service, 1933-1942 by John C. Paige.

The Beginnings of a New National Historic Preservation Program, 1957 to 1969 by James A. Glass.

The National Historic Preservation Act and the National Park Service—A History by Barry Mackintosh.

History and Prehistory in the National Park System and the National Historic Landmarks Program 1987.

Man in Space—A Study of Alternatives.

Astronomy and Astrophysics—A National Historic Landmark Theme Study by Harry A. Butowsky.

Warships Associated with World War II in the Pacific—A National Historic Landmark Theme Study by Harry A. Butowsky.

The US Constitution—A National Historic Landmark Theme Study by Harry A. Butowsky.

Architecture in the Parks—A National Historic Landmark Theme Study by Laura Soulliere Harrison.

For free copies, write to

Department of the Interior, National Park Service, History Division-418, P.O. Box 37127, Washington, DC 20013-7127.

Image as Artifact: The Historical Analysis of Film and Television.

John E. O'Connor, Editor. American Historical Association; Robert E. Krieger Publishing Company, Malabar, Florida 1990; 344 pages.

Reviewed by Timothy R. Manns, chief naturalist, Zion National Park, UT.

Historians can analyze film and television using the techniques they apply to documents and artifacts. As teachers they should train students to view film and television critically, striving for "visual literacy." John E. O'Connor, editor of this collection of essays, is professor of history at New Jersey Institute of Technology and editor of the journal "Film & History." Essays by an international cast of history and film professors cover the gamut of the relationship between historians and the "moving image media" as objects for analysis.

O'Connor's introductory essay describes a strongly suggested analytical approach to film and television in two stages. First the historian gathers information on the content, production, and reception of a film or tape. Chapter two describes this stage in detail.

Chapter three forms the bulk of the book laying out the second stage, analysis of the gathered information within one of four "frameworks for historical inquiry." These frameworks are presented as the four possible ways that moving picture media can relate to history: as representation of history, as direct evidence for historical fact, as clues to social and cultural history, and as history of the media themselves. For each of these *Image As Artifact* presents four essays. Two discuss research concerns usually tied neatly to the first stage of analysis, ("content, production, reception"). A third essay describes applications to the classroom. For each framework, O'Connor has written an introductory essay giving an overview, which is generally the most readable treatment as well.

A video compilation and study guide of examples discussed in the essays supplement this book. The American Historical Association and the National Endowment for the Humanities funded book, video and guide in a project directed by O'Connor.

The essays in *Image As Artifact* vary widely in readability and content though in places falling victim to the repetitiveness inherent in collections. Some repetition serves to emphasize three basic messages: the tools of the historian are applicable to moving image media, historians cannot ignore these media and adequately study modern history, and it is essential that everyone develop visual literacy, the ability to view critically. All contributors are in academia, and the writing of several, particularly in discussions of film theory, tempts the reader to stereotype. Agonizing over such questions as "What is a film?" is crucial in some circles but will start many readers skimming. O'Connor urges historians to see the convolutions of film theory as important. Readers may not be convinced. The book closes with a helpful "Introduction to Visual Language" by O'Connor. Typographical and editing errors (at least 30) are frequent enough to be a distraction.

Why might employees of a national park, especially interpreters, want to read *Image As Artifact*? As the writers insist, visual literacy is essential for everyone. This book gives a start. Television and film are now common sources of information about history and nature, the subjects interpreted in most national parks. This has obvious implications for parks and their interpreters, who work directly with the impressions and ideas visitors bring along. For many people, Yogi Bear and docu-dramas substitute for more reliable sources of information on animal behavior and historic events. To better understand and inform park visitors we need to understand the media which influence us all.

Another reason to read at least parts of *Image As Artifact* and other books on visual literacy is to apply the concepts directly to interpretive programming. An interpretive program consisting of presenting a film or videotape and involving visitors in critical analysis of it using historical methods could both correct stereotypes and encourage critical viewing from then on. Contributor Pierre Sorlin writes, "Film can open our minds to another, more vivid and human, less literary understanding of the past." While NPS interpretation has taken good advantage of this, *Image As Artifact* provides useful warnings about the difficulty of presenting history accurately through film or video. Dangers include oversimplification, stereotyping, and distortion of fact for dramatic effect.

In some NPS visitor centers historic, or "actuality," footage is shown periodically in theaters or continuously on monitors. We need to be aware that old newsreel scenes were frequently faked and that while actuality footage can help convey the feeling of a period and place it can also deceive. Historic footage is still only a partial and mediated glimpse; it does not make us eyewitnesses to the past. Finally, park employees who may be interviewed for television would do well to read O'Connor's description of the production of news interviews (page 315317). It is the book's most dramatic example of how we ignore the moving image media at our peril.

Celebrations by William M. Johnston; 196 pp.; \$29.95 (cloth). In the last decade, celebrations of historical anniversaries abounded. Using methods of cultural history, sociology, and religious studies, Johnson shows how the cult of anniversaries reflects postmodern concerns. In an era when there is little consensus about styles or methods, anniversaries allow intellectuals, business, and government to acknowledge and celebrate every nuance of opinion. Anticipating the future, Johnston predicts that the Bi-millennium of the year 2000 will climax the Age of Anniversaries described in the book.

Order from Transaction, Rutgers—The State University of New Jersey, New Brunswick, NJ 08903; 201-932-2280.

Discerning a Preservation Attitude Historic Preservation Guides from the Sixties to the Nineties

Much like getting several opinions prior to entrusting your body to a surgeon, it is wise to compare several authors of historic preservation guides before engaging one of them as a trusted consultant for some intervention (minor or major) into irreplaceable historic fabric. Although it is perhaps not entirely fair to judge a book by its introduction, one or two pages (or even one or two sentences) can often reveal a telling *attitude* about such broad categories as people, history, architecture, technology, and change. What an author has to say on these more general and abstract areas will, in turn, tend to shape the book's content, that is, the specific technical advice on how to "treat" historic buildings.

For example, Orin Bullock's **Restoration Manual**, originally published in 1966, holds a key attitudinal sentence in an Introduction by Morris Ketchum, Jr. Rhetorically asking, "What shall we save? History?..." the answer is clear cut: "The fundamental objective is *to save architectural excellence, not architectural mediocrity...*" If you think your old building doesn't fall into this exalted category, then the advice that follows will probably not be suitable to guide work on your particular property. But then, Orin Bullock's book

was printed in 1966. This fairly narrow objective seems strangely out of tune in 1990 with more than a decade of adaptive reuse projects behind us—projects that have rehabilitated entire communities of vernacular buildings whose *historical* significance at least equals or even outweighs their "architectural excellence." The fact that Bullock only defines *restoration, preservation, and reconstruction* is another clue of what is to follow, or what will be omitted. In this case, *rehabilitation* as we know it now had yet to be defined, much less implemented. What is important about **The Restoration Manual** is its methodical approach to documentation, both through historical research as well as nondestructive techniques such as photogrammetry and measured drawings. Although the National Park Service's standards, guidelines, and technical information share most of the principles in Bullock's manual, today almost 25 years after its publication, some of the advice is outdated. For example, waterproofing masonry is suggested, a technique that has long since been discredited as harmful or useless, or both. *In summary: This book should be part of a complete preservation library. (The Restoration Manual by Orin M. Bullock, Jr., FAIA. Silvermine Publishers Incorporated. Norwalk, Connecticut, 1966; reprinted 1971.)*

Preserving and Maintaining the Older Home by Shirley Hanson and Nancy Hubby also reveals an attitude about old buildings in introductory sections entitled "To the Reader" and "Becoming Friends With Older Homes." In this case, it includes the importance of history as well as architecture; the book also reflects the acceptance of historic preservation by an increasingly interested public in the early 1980s. **Preserving and Maintaining the Older Home** is nontechnical, almost to a fault. The authors state: "Older houses come in all sorts of sizes, shapes, and styles. Some are simple, humble structures; others are flamboyant, imposing edifices. Some are rustic country cottages; others are unpretentious urban row houses, stately townhouses or ornate mansions... Seemingly endless intriguing discoveries await those who learn to see and appreciate." If "caring" for a house seems a bit soft, the authors are really stressing responsible maintenance practices. They state: "Like elderly people, some older homes are remarkably sturdy and in a healthy physical condition. Others show the devastation of time and an absence of caring by their former owners..." Chapters in the book address style, and maintenance, repair, and renovation techniques for houses, feature by feature, such as roofs, chimneys, gables, dormers, and porches and porticoes. *In summary: Even though contractors may ultimately be hired, this well-written book will make owners more knowledgeable about history and preservation and, in doing so, provide a valuable background for making more informed work decisions about their properties. (Preserving and Maintaining the Older Home by Shirley Hanson and Nancy Hubby. McGraw-Hill Book Company, New York, 1983.)*

Published in 1985, a third book entitled **Building Additions Design** by David R. Dibner, FAIA, and Amy Dibner-Dunlap holds quite a different attitude. This one is not a "how to" as is Hanson-Hubby's; it is more philosophical and more about architecture, like Orin Bullock's book, but with an altogether *different* philosophy. On one level, this is a comprehensive, well-illustrated book on the various possibilities of adding on to old buildings, outlined in a straightforward manner. The first sign of a problem from a preservationist's point of view, however, is in the authors' Preface, where the existing building is defined as the "host" (or historic) building and the challenge as finding economical ways to house new functional requirements. Through an almost mathematical formulation for achieving this end, the reader is shown the various ways that historic buildings can meet changing needs. This is accomplished with remarkable neutrality. We learn, for example, that additions can be horizontal, vertical, linked, or modular and that the building can also be expanded internally. Unfortunately, in many of the examples, the host building is either partially destroyed in the process of adding on or is radically out-scaled by the new construction. The controlling attitude about history and historic buildings is most clearly revealed in Chapter 8, which addresses "Preserving Portions of Buildings." While facadism may be rejected in other, more strident texts—not here! Dibner and Dibner-Dunlap write: "Developers are usually able to make the bottom line come out favorably despite the

added costs of propping up the facade." They conclude that "no matter what the approach, it is surely worth the effort to save a piece of our heritage. " It is interesting that the subject of new additions was a volatile one in the mid-80s, but not so much today. In 1986, the National Park Service published a Preservation Brief on new additions which took a strong stance against saving "pieces of *Organizations* our heritage," more specifically, that inveighed against work that damaged or destroyed historic materials, and against additions that were so sizable or intrusive that they diminished the character of the historic resource.

In summary: A book that shows an astonishing number of ways that historic buildings can be expanded by today's architects, but with more of an eye to "client need" than preservation. (Building Additions Design by David R. Dibner, FAIA, and Amy Dibner-Dunlap. McGraw-Hill Book Company, New York, 1985.)

The last book, **Renovation, a Complete Guide** by Michael W. Litchfield, is decidedly a product of the 1990s. Litchfield has a respectful, down-to-earth attitude about historic buildings and understands the technical aspects of rehabilitation so well he can simplify them for a broad audience. This time the important statement of approach can be found in an early chapter on planning, entitled **Respecting What's There**. The author states: "... There are admonitions throughout this book to save time and money by renovating no more than you must. The same is true for aesthetic reasons. Design is tricky stuff to articulate, but a building's integrity comes from the proportion of its windows, the width and contour of its trim, the slope of its roof—from its parts, in short—just as we humans are distinctive by the color of our hair, the set of our eyes, the shape of our noses. Each historical period has its own architectural elements... when you must change something, be guided by what is already there." Litchfield, founder of *Fine Homebuilding*, advocates the maintenance and retention of repairable historic materials in the process of rehabilitation. In this sophisticated guide, chapters are devoted to tools, roofs, doors, windows and skylights, exteriors, structural carpentry, masonry, foundations, mechanical and electrical systems, and interior aspects such as finish surfaces, carpentry, painting, wallpapering, and flooring. Eight years in the making, Litchfield interviewed hundreds of master craftsmen on job sites—carpenters, electricians, plumbers, masons, engineers, and painters—for the new, updated **Renovation** guide. *In summary: Even if a contractor will do the work, the text, photographs, and illustrations explain specific tasks in a manner that illuminates rather than confuses or simply awes. It makes technology accessible.* (*Renovation: A Complete Guide* by Michael Litchfield. Prentice Hall, Englewood Cliffs, New Jersey, 1991.)

Kay Weeks is technical publications writer-editor in the Preservation Assistance Division, National Park Service.

CAMP

Guy L. Peterson

The Council on America's Military Past (CAMP) was founded in Phoenix, Arizona in 1966. The purpose of the organization is to identify, locate, preserve, and memorialize military installations and units no longer serving the purposes for which they were founded.

The organization was originally known as the Council on Abandoned Military Posts. However, the mental image of abandoned, dusty, barely perceptible abandoned forts was perceived as turning many people away before they became familiar with the organization. So the name was changed while maintaining the acronym. Since its founding, CAMP has expanded its horizons and "military" is interpreted broadly to include every service as well as some of the early fur trading posts. The membership of the organization comes from all 50 states, 6 foreign countries, and most overseas territories and commonwealths. The membership is composed of many professions, with heavy emphasis on academic, military, historical preservation, history, archeology, writing and publishing, archives, and museology. All of the major military academy libraries and many major university and city libraries are represented also (e.g., Harvard, Yale, Utah, Northwestern, New York City, Dallas). Numerous state and regional history and national historical societies belong. Three-fourths of the State Historic Preservation Officers are members, either on a personal basis or through office affiliation.

Activities

A major sub-division of CAMP's national organization consists of 27 state or regional departments or chapters which organize and carry out activities such as site-visits, localized lectures, and meetings, bringing the over-all purpose closer to an individual's home.

An annual three-day Military History Conference is held during the last week of every April. Future CAMP Annual Military Conferences include: April 24-27, 1991: Reef Hotel, Honolulu; April 23-26, 1992: Tampa, Florida; April 21-24, 1993: Houston, Texas; April 27-30, 1994: Tacoma, Washington; April 26-29, 1995: Atlanta, Georgia; April 24-27, 1996: El Paso, Texas. A midyear business meeting is held during the October conference of the Western History Association.

CAMP works closely with Federal and state agencies on historic research and preservation projects, drawing on the many disciplines of the membership. It also serves as a "watchdog" over threatened military historical sites which often become the target of destruction for whatever reason.

Two national publications are received by all members: the bi-monthly *Headquarters Heliogram*, edited by CAMP Secretary Col. Herbert M. Hart, USMC (Ret.), covers current events in the field of CAMP's endeavors; and the quarterly, *Periodical*, a more scholarly publication.

To join, send name, address, city, state, ZIP code, place and date of birth, educational and military background, occupation, present and past, and other matters of interest, such as hobbies, awards, publications, projects and general comments, with the proper amount of dues to: Membership Secretary, CAMP P.O. Box 1151 Fort Myer, VA 22211-5199

Military service is not a requirement for membership. The only requirement is that the individual be interested in the overall purposes of CAMP. Assistance in research projects are listed in the *Headquarters Heliogram*, at a member's request and publishing opportunities in the field are available.

Lt. Col. Guy L. Peterson, USAF (Ret.), is CAMP Book Review Editor.

Permanent Paper Policy Established

On October 12, 1990, President Bush signed the Joint Resolution to "Establish a National Policy on Permanent Papers." Public Law 101-423 establishes a national policy on the use of acid-free permanent paper for Federal records, books, and publications of enduring value. The measure recommends that American publishers and state and local governments voluntarily use acid-free paper for significant publications.

The measure instructs the Secretary of State, the Librarian of Congress, and the Archivist of the United States to inform foreign governments and international agencies of this national policy. The Archivist, the Librarian, and the Public Printer are also charged with monitoring the Federal Government's progress in implementing the policy laid out in these policy recommendations and with reporting to Congress periodically.

New Guidelines for Management of Shipwrecks

A new set of guidelines to help manage state-owned and federally-owned shipwrecks has been issued by the National Park Service (NPS).

In 1988, with enactment of the Abandoned Shipwreck Act, the U. S. Government asserted title to most abandoned shipwrecks located within three miles of the Nation's coastline. Title to the majority of these shipwrecks then was transferred to the state in whose waters the wrecks lay. The Abandoned Shipwreck Act makes the law of finds and the law of salvage inapplicable to these now publicly-owned shipwrecks.

The National Park Service's new guidelines are to assist the states and Federal agencies in developing legislation and regulations to carry out their responsibilities under the Abandoned Shipwreck Act. The guidelines provide advice on establishing state and Federal shipwreck management programs; on surveying, identifying, documenting, and evaluating shipwrecks; providing for public access to shipwrecks; interpreting shipwreck sites; establishing volunteer programs; and creating and operating underwater parks or preserves.

The "Abandoned Shipwreck Act Guidelines" appeared in the Federal Register on December 4, 1990, and immediately became effective. Corrections appeared on December 14, 1990. Copies of the guidelines are available free of charge from the Department Consulting Archeologist, National Park Service, U.S. Department of the Interior, P.O. Box 37127, Washington, DC 20013-7127. Persons, organizations, and government agencies that have previously contacted the National Park Service concerning the guidelines do not need to request copies of the final guidelines; copies will be distributed when available.

Capitol Contact

Bruce Craig

Civil War Battlefield Commission Authorized

In the closing hours of the 101st Congress, several bills effecting the Nation's cultural resources were consolidated into the Arizona Wilderness Bill (HR 2570). One title of that legislation established a Civil War Battlefield Commission comprised of historians and preservationists. The Commission is to prioritize endangered Civil War battlefields and devise various strategies for their preservation. Also in the same bill, a study of unprotected Civil War battlefields in the Shenandoah Valley of Virginia was authorized. Congress appropriated a total of \$600,000 to accomplish these studies. Language in the Arizona Wilderness Bill also directs the National Park Service to assemble a group of historians and other cultural resource professionals to rewrite the "thematic framework" so that it better reflects current trends in prehistoric and historic scholarship. However, no money for this legislative initiative was authorized.

101st Congress Legislative Roundup

In contrast to the proceeding Congress, this one added very few new areas to the National Park System. Petroglyphs National Monument in the vicinity of Albuquerque New Mexico, Weir Farm National Historic Site in Connecticut (the first National Park Service unit focusing on landscape painting) and U.S. Grant National Historic Site near St. Louis Missouri (a Presidential home), are all cultural sites and they were the only new areas added to the System.

Congress was particularly active in establishing resource based boundaries for historical parks. Civil War areas such as Gettysburg, Harpers Ferry, Vicksburg and Fredericksburg/Spotsylvania battlefields received much deserved attention. Other historical units including San Antonio Missions, Truman National Historic Site, Tumacacori National Monument (now National Historic Park), Pecos National Monument (including the Glorieta battlefield which is now a part of the Pecos National Historical Park), Natchez National Historical Park and Fort Raleigh National Historic Site had important additions authorized.

In addition to the Civil War Battlefield Commission and interrelated studies, Congress authorized several special studies that will help set the legislative agenda for future Congresses. Within one year, the National Park Service is to prepare criteria to evaluate proposed boundary changes for all park units. Theme studies relating to the civil rights march from Selma to Montgomery, a study of historic Route 66, the Underground Railroad and the history of jazz were all authorized. In addition, the Appropriations Committee set aside funds for studies of the Pony Express trail, Benjamin Harrison NHS and a study of West Virginia Coal heritage.

Legislation that did not pass this year includes a bill authorizing a National Historic Landmark theme study focusing on labor history, legislation changing the name of Custer National Battlefield to Little Bighorn National Battlefield and legislation empowering the National Park Service to operate the Mary Bethune National Historic Site in Washington, D.C.

The 102nd Congress

What is there to expect in the 102nd Congress? First, the agenda for a new Congress often includes important legislation not enacted by the previous Congress. Second, it is expected that several proposed new park areas will attract attention including legislation

establishing a historic site focusing on the Hudson River School of landscape painting, a bill establishing an Anasazi National Monument and another considering the establishment of another historic site associated with the Wright Brothers in Dayton, Ohio.

If you would like additional information on any legislation mentioned above, drop me a line at NPCA, 1015 31st Street, NW, Washington, DC 20007.

Information Management

Computer Security Threats and Solutions

Jennie Diaz Guilbaud

The Federal Government relies on sophisticated technology for creating, receiving, distributing, and storing information necessary for administering public policy. The proliferation of automated data systems also increases the possibility for loss of valuable resources, compromise of program objectives, and leaks of sensitive information. These problems can be greatly reduced by planning security measures for the system before it is installed.

The physical setting of the automated system is an important consideration. The components of data systems are costly and need to be protected from possible damage, theft, or vandalism. Security procedures should be established for the building and grounds to prevent trespassing. The system components should not be placed in areas of heavy traffic where collisions are possible. The core of the automated system ought to be isolated in a secure room accessible only by appropriate personnel. Information resource managers must consider environmental controls for the secure room so extreme temperature or humidity swings will be eliminated and unable to damage the equipment and the media on which the data is stored. The threat of fire can be minimized by installing appropriate electrical circuitry for the data system's components. Smoke detectors provide early warning of fire, reducing possible loss of life, equipment or data. Water can also contribute to the loss of equipment and data. The automated system should be stationed away from water pipes and leaking roofs.

Electrical storms and power surges can also wipe out electronic records. Possible solutions may include investing in a lightning rod system for the facility or use of surge suppressers that will direct the electrical flow supplying the system at a constant level. Uninterruptable power supply (UPS) equipment may be incorporated into the system to keep operations running during a power outage. The UPS should give the system's operators enough time to conduct a back-up to save the data stored in the system should the facility suffer an extended power outage. Computer backups need to be conducted at regular intervals to prevent major loss of data.

Unauthorized access is a leading problem in computer security. An intruder who gains access to restricted areas in an automated data system is able to browse through files not intended for general viewing, and increases the chances, either by intention or accident, of deleting or changing data. The intruder may also copy sensitive data onto other directories that are more easily accessed. To avoid accidental security breaches, techniques and procedures must be established and implemented to control personnel access to restricted areas of the computer system. Training personnel in the established procedures will help reduce incidents of accidental entrance or manipulation of sensitive data.

Passwords give some control over initial access to a computer. The theft of passwords is a major problem increasing the chance of unauthorized access to restricted areas. Passwords can easily be picked up when they are habitually written and kept near the terminals. An intruder can gain access to passwords and files when an authorized user leaves the terminal while logged onto a restricted file. Some employees share passwords while others send their passwords through the network when using electronic mail. A password thief is often able to guess plain text passwords since employees often use a variation of their names. Backdoor passwords are sometimes left in the computer software by the producing companies as vestiges from the system's development stage. To reduce unauthorized access, have the developers remove all backdoors after the system is set up.

Establish procedures for regular password expiration and train personnel to safeguard and choose uncommon passwords.

Many computers now link information systems through different networks throughout the world. The networks connect various terminals to databases usually by telephone lines. The telephone is the main conduit for accessing various networks by operators with the correct password. A successful unauthorized entry into a database can be a jumping point to other databases through network linkages. All data systems connected to an intricately woven network system are put at risk when one member is violated.

Computerized data systems are subject to espionage and sabotage chiefly from disgruntled employees and occasionally outsiders called hackers. The spy is interested in stealing information. Restricted information may be accessible to a hacker through network linkages. Information theft is also made possible with the quick copying capabilities of the floppy disks which are easy to hide and carry. The saboteur is interested in damaging property or disrupting procedures in order to obstruct the normal function and productivity of the target facility. Disruptions may be created through physical damage of the system, by erasing data or programs, or installing new programs.

The computer saboteur can make a big impact on several data systems by creating a viral program to be introduced into a system's computer. A virus has the ability to spread from floppy disk to floppy disk and through networks by hiding behind other codes. The viruses may display a message or manipulate graphics, wipe out data, or take up valuable memory space. The "Trojan Horse" virus is placed within a system's program before use and the new instructions are carried out along with the normal system activity. The "Logic Bomb" virus is often triggered by a specific date or time that sets an unauthorized function into motion. The "Worm" virus searches networks for idle terminals to execute large programs in small segments that will replicate the viral program.

A viral program once introduced into a system can mean an expensive operation to neutralize. Vaccination software developed to counteract specific viruses are available on the market. Extreme conditions may require an organization to throw away the infected floppy disks and reformat all the hard disks in the system.

Procedural measures to prevent viral infection should be introduced to and practiced by the staff members operating the data system. New files downloaded from networks or electronic bulletin boards should be separated and tested before full integration with the system. Backup files should be done regularly to prevent loss of data should a viral program wipe out the system's memory.

Security software is available on the market to make infiltration of systems through network linkage and password theft more difficult. Audit trails are extremely useful in reporting who uses the system, when, for how long, which files or applications are accessed, and illegal access attempts. Use of multi-level passwords make it difficult for a hacker to penetrate the system. Some security software also disallows access to the hard disk to prevent quick copying onto floppy disks.

There are so many possible ways of losing data from information systems that security must be made an important consideration during the planning stages of such systems. It is more costly and time consuming to refit security measures after the system is set up. Safeguard procedures need to be installed and implemented as preventive measures once the system is in operation. A risk assessment program should be in place to measure the vulnerabilities of and threats to a system by identifying possible damage and evaluating the possibility of occurrence in order to use available resources to minimize potential losses. The organization must have the technical expertise to identify security breaches and the willingness to prosecute the culprits to protect the integrity of the data and prevent future incursions.

Jennie Diaz Guilbaud is an archivist at the National Archives and Records Administration. A longer version of this article was originally printed in "Recordfacts Update," a newsletter of NARA's

Agency Services Division.

Is There Life After ANCS?

Connie Estep

Entering museum catalog records into the Automated National Catalog System (ANCS) often seems the final step in a **Natural History** long chain of events. But once objects are cataloged is that the end? Hopefully it is the beginning of a long and useful life not only for the artifact, but also for the artifact data.

ANCS is a Clipper application of dBase III Plus and may be used as a stand-alone program. However, when used with the dBase III Plus software the full range of dBase commands is available for data manipulation. This article provides ideas on ways to use ANCS records.

Museum collection managers find frequent use for the ANCS database. The ANCS consists of two separate databases for catalog records: one for cultural resources covering archeology, archives, ethnography, and history; and another for natural history covering biology, geology, and paleontology. Collection management and research data may be readily retrieved by using ANCS. For inventory, shelf lists can be produced by listing catalog numbers and object names shelf by shelf. If a collection is packed for shipping, box numbers may be placed in the location field and packing lists are easily produced.

Rapid responses to requests for information become routine with the help of dBase. The following examples are from a history collection. A researcher of firearms may bring the following questions:

"How many firearms are in the collection?" A relatively simple dBase query will produce the total.

"What kind of firearms do you have?" Using dBase's UNIQUE feature can produce an alphabetic list of all the types in the collection or a complete listing of all the firearms in the collection.

Archeology Research

The above suggestions also apply to retrieving information about archeology collections and associated field generated records. Archeological materials are classified by material, facilitating material type searches. Searches are often made by object name. Object names are *not* standardized nationwide, but have been in parks and archeology centers. Searches may also be made by collection provenience: by level, floor or formation; by squares or other coding used by archeologists. State site numbers are the key to all U.S. sites; searches may be made on this field also.

Ethnography Research

Ethnographic objects are classified by culture area, cultural group, and material and may be retrieved by any of these.

Accessing the natural history database in ANCS will also yield a wide array of information. Classification is coordinated with a full Linnean taxonomic scheme, making retrieval possible by taxonomic categories. Scientific and common names are listed and may be searched. Three choices for collection site include UTM, latitude/longitude, and township/range/ section. Searches may be made on any of these fields. (Also of interest is

Garry Davies' "Using the ANCS for Natural History Collections," *CRM Bulletin* Vol. 13, No. 4, p. 34 on coordination with GIS.)

Retrieval may also be done by waterbody/drainage field. Lists of all plants collected along a certain river or creek may be compiled. The field for habitat types may be used to determine what species are found in a particular habitat. For example, a small mammal study has been in progress in the Noatak National Preserve for several years. Retrieval may be made by habitat to determine populations of tundra, spruce, birch, and wet meadow areas. These also may be retrieved using elevation as a qualifier to fine tune the resulting statistics.

Both the cultural and natural history ANCS databases have fields for original identification numbers assigned by collectors, to ensure ready cross-referencing and location of specimens in reports.

What is the future of the Automated National Cataloging System? ANCS has resulted in park-by-park databases. Currently parks submit only printed catalog records to the National Catalog at Harpers Ferry, West Virginia. Long range ANCS development plans include an aggregated database where all NPS catalog records will be accessible in one location. This will greatly facilitate research of NPS collections.

Connie Estep is registrar in the Alaska Regional Office, National Park Service. She started working with ANCS in 1987 at the Western Archeology & Conservation Center, using the test version.

Managing the National Park Service Collections; Using the Automated National Catalog System

Joan Bacharach

Excerpts from an article in Spectra, The International journal of Computer Application in Museums, spring 1990.

Close to 300 park museums and centers house site specific collections that reflect all disciplines including archeology, history, archives, ethnology and biology, paleontology and geology. Collections result from a broad range of activities including archeological excavation and botanical resources. The National Park Service is responsible for historic houses and ships as well as their contents. Rare gems of the natural world such as type specimens and skeletal remains of many species, including some endangered species, allow scientists to pursue their studies. Collections span fine and decorative arts and every-day utilitarian items. All sizes are represented, from cars and buggies to nails and buttons. Included in the Park Service care are ethnographic collections and the personal and archival collections of great Americans. The Service's museum collections truly reflect America through time and space. Individual park collections range in size from a few hundred to over a million. Based on 1987 estimates, collections number over 25.6 million. Sixty-eight percent of the collections are archeological in nature.

Management Issues

The Service, like any museum, needs to know what is in the collections, how many, what kind; in what condition; what collections need special attention; which have special restrictions, and what collections can be or should be used for interpretive, research or exhibit purposes. Museum staff needs to know what is out on loan, and most important of all, where the objects are located. Sufficient information must also be gathered and stored to accomplish these tasks.

The Service's most pressing need is to manage, curate and account for the rapidly growing collections, in particular archeological collections. The overriding challenge is staying current with cataloging the fast growing collections. And, due to the decentralized nature of the Park Service, tracking the security and location of the collections and accounting for them is of prime importance.

In order to find answers to these questions, a more efficient means than the existing manual system was needed to gather and retrieve sufficient information in order to manage the collections. Thus the development of the Automated National Catalog System or ANCS was initiated. The ANCS is a management **Future Plans** tool that satisfies a range of needs including those of the Washington office, the regions, and the parks where the collections are actually located.

The ANCS

Administered by the Curatorial Services Division, the ANCS provides a unified automated documentation system to meet the goals and objectives of the National Park Service. Collections management, and researched or derived data, are needed to manage the collections. Phased development has included the refinement of the manual system to meet disciplinary and NPS collection management standards, development of a park-based stand-

alone microcomputer system, a multi-user access park system and an aggregated database to be developed and administered in Washington, D.C.

The ANCS was developed by the Curatorial Services Division in consultation with regional curators and a steering committee composed of subject and museum automation specialists, and park and regional curators. Together the group defined the objectives and the data to be gathered to meet the stated goals. The management of collections at the park is the primary goal of the ANCS while simultaneously satisfying management requirements of the region and the Washington office.

Every ANCS version has undergone extensive field testing and review by park, regional staff and disciplinary specialists. Such extensive reviewing is time-consuming and demands rigorous coordination. However, it has meant that users have bought into the system. Rather than having to "market" the system, the Division must keep up with the demands of increasingly sophisticated users who have discovered the expanded horizons of managing their park-based collections. Annual production of catalog cards has risen from 27,000 in 1983 to close to 200,000 in 1988, the latter representing over 876,000 objects. The change is due in part to automation and to a greater extent, to increased funding through a Congressional add-on to the National Park Service appropriation of \$2.763 million in fiscal years 1988 and 1989, and \$2.5 million in 1990. This reflects an increase of over 600% and the production is on the rise. The ANCS will facilitate the enormous task of cataloging the as yet uncataloged 24 million objects.

Introduced in 1985 and formally implemented in 1987, the current ANCS is a stand-alone microcomputer dBase III Plus and Clipper application running in close to 300 park museums. It has been distributed to over 120 non-NPS institutions.

As the last phase of the ANCS development, the Park Service is planning an aggregated database to be housed in the central office on a minicomputer. The aggregated database will be used primarily for management of NPS museum resources. Regions and parks will have ready access. The database will also be used by central office exhibit designers, historic furnishings staff and interpreters and will prove to be an invaluable tool in facilitating research. The system will be available to NPS users through a filtering process, with differing levels of access approved and controlled by the Curatorial Services Division in concert with the regional curators and the steering committee. Due to the difficulties of remote telephone access, on-line access for NPS park staff is not anticipated soon. The aggregated ANCS database that will be made available outside of the Service will also provide a remarkable and large nationwide database on NPS resources for non-NPS users. Public access will be subject to the Freedom of Information Act, Archeological Resources Protection Act and security restrictions. The system promises to be one of the largest US databases in the museum community.

Joan Bacharach is museum registrar in the Curatorial Services Division, National Park Service, Washington Office. She has managed the National Catalog of Museum Objects since joining NPS in 1984.